

IN THE CLAIMS.

Please cancel claims 1-2 and 26-28 as drawn to a non-elected species.

Please amend claims 3-25 as indicated below.

Please add new claims 48-70 as indicated below.

1. (Cancelled).

2. (Cancelled).

3. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising:

a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; wherein said body provides an implant having a substantially solid center when the body is in its first configuration.

4. (Original) The implant of claim 3, wherein said inner fold defines an aperture.

5. (Original) The implant of claim 3, wherein said elastic body is comprised of a hydrogel material.

6. (Original) The implant of claim 3, wherein said elastic body is comprised of an elastomer.

7. (Original) The implant of claim 6, wherein said elastomer is selected from the group consisting of silicone, polyurethane, copolymers of silicone and polyurethane, polyolefins, nitrile and combinations thereof.

8. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising:

a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; wherein said inner fold defines an aperture; and ~~The implant of claim 4,~~ wherein said inner fold has a surface with projections, said projections extending into said aperture.

9. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; ~~The implant of claim 3,~~ wherein said elastic body has an outer surface, said outer surface having projections extending therefrom, said projections configured for enhancing fixation of said body in said intervertebral disc space.

10. (Original) The implant of claim 3, wherein the outer surface of said elastic body is microtexturized.

11. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold,

said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; wherein the outer surface of said elastic body is microtexturized; ~~The implant of claim 10,~~ wherein said microtexturizing is performed by a process selected from the group consisting of bead blasting, plasma etching, chemical etching and combinations thereof.

12. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; ~~The implant of claim 3,~~ wherein said body further comprises a reinforcing material at said inner fold surface.

13. (Original) The implant of claim 12, wherein said reinforcing material comprises fibers.

14. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first

configuration after said insertion; The implant of claim 3, wherein said elastic body is comprised of a hydrogel material, said material having at least one growth factor dispersed therein.

15. (Original) The implant of claim 14, wherein said growth factor is selected from the group consisting of transforming growth factor β , bone morphogenetic proteins, fibroblast growth factors, platelet-derived growth factors, insulin-like growth factors and combinations thereof.

16. (Original) The implant of claim 14, wherein said growth factor comprises a recombinant protein.

17. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; wherein said growth factor comprises a recombinant protein; The implant of claim 16, wherein said recombinant protein is a human protein.

18. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; The implant of claim 3, wherein said body has at least

one surface depression in its second configuration, said inner fold formed from said surface depression.

19. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; ~~The implant of claim 3,~~ wherein said first end is formed from a first arm, said second end is formed from a second arm and one of said arms of said implant has a length greater than the other of said arms.

20. (Original) The implant of claim 4, wherein said aperture has a cross-sectional shape selected from the group consisting of annular-shaped, elliptical-shaped, and star-shaped.

21. (Original) The implant of claim 3, wherein said body is substantially elliptical- or ring-shaped in its folded configuration.

22. (Original) The implant of claim 3, wherein said body has a top surface for contacting an upper vertebral endplate of an intervertebral disc and a bottom surface for contacting a lower vertebral end plate of an intervertebral disc, said top and bottom surface configured to be complementary to the endplate they are in contact with.

23. (Original) The implant of claim 22, wherein said top and bottom surface of said body are convex.

24. (Currently Amended) The implant of claim 3, wherein said first end and said second end each have an inner edge and an outer edge, at least one of said ~~inner~~ edges having a rounded configuration.

25. (Currently Amended) An intervertebral disc nucleus pulposus implant, comprising: a load bearing elastic body sized for placement into an intervertebral disc space, said body having a first end, a second end, a central portion, and a first configuration wherein said first end and said second end are positioned adjacent to said central portion to form at least one inner fold, said elastic body configurable into a second, straightened configuration for insertion through an opening in an intervertebral disc annulus fibrosis, said body configurable back into said first configuration after said insertion; ~~The implant of claim 3,~~ wherein said body has a top surface for contacting an upper vertebral endplate of an intervertebral disc, a bottom surface for contacting a lower vertebral end plate of an intervertebral disc, and an external side surface, said body having at least one groove on said side surface, said groove extending between said top surface and said bottom surface.

26-28. (Cancelled).

29-47. (Previously Cancelled).

48. (New) The implant of claim 3, wherein said inner fold has a surface with projections, said projections extending into said aperture.

49. (New) The implant of claim 3, wherein said elastic body has an outer surface, said outer surface having projections extending therefrom, said projections configured for enhancing fixation of said body in said intervertebral disc space.

50. (New) The implant of claim 3, wherein said microtexturizing is performed by a process selected from the group consisting of bead blasting, plasma etching, chemical etching and combinations thereof.

51. (New) The implant of claim 3, wherein said body further comprises a reinforcing material at said inner fold surface.

52. (New) The implant of claim 51, wherein said reinforcing material comprises fibers.

53. (New) The implant of claim 3, wherein said elastic body is comprised of a hydrogel material, said material having at least one growth factor dispersed therein.

54. (New) The implant of claim 3, wherein said growth factor comprises a human protein.

55. (New) The implant of claim 3, wherein said body has at least one surface depression in its second configuration, said inner fold formed from said surface depression.

56. (New) The implant of claim 3, wherein said first end is formed from a first arm, said second end is formed from a second arm and one of said arms of said implant has a length greater than the other of said arms.

57. (New) The implant of claim 3, wherein said body has a top surface for contacting an upper vertebral endplate of an intervertebral disc, a bottom surface for contacting a lower vertebral end plate of an intervertebral disc, and an external side surface, said body having at least one groove on said side surface, said groove extending between said top surface and said bottom surface.

58. (New) The implant of claim 3, wherein said load bearing elastic body conforms to and substantially fills the space that is vacated by removal of the disc nucleus pulposus.

59. (New) The implant of claim 3, wherein said load bearing elastic body further includes metal beads or wires embedded therein to facilitate x-ray identification.

60. (New) The implant of claim 3, wherein said load bearing elastic body further includes at least one pharmacological agent.

61. (New) The implant of claim 59 wherein said pharmacological agent is a member selected from the group consisting of antibiotics, analgesics, anti-inflammatories, steroids, and combinations thereof.

62. (New) The implant of claim 59, wherein said pharmacological agent is chemically attached to the surface of the implant.

63. (New) The implant of claim 5 wherein said hydrogel is a member selected from the group consisting of natural hydrogels, hydrogels formed from polyvinyl alcohol, acrylamides, polyacrylic acid, poly(acrylonitrile-acrylic acid), polyurethanes, polyethylene glycol, poly(N-vinyl-2-pyrrolidone), acrylates, poly(2-hydroxy ethyl methacrylate), copolymers of acrylates with N-vinyl pyrrolidone, N-vinyl lactams, acrylamide, polyurethanes and polyacrylonitrile.

64. (New) The implant of claim 62 wherein said hydrogel is cross-linked to provide further strength to the implant.

65. (New) The implant of claim 3, wherein said load bearing elastic body comprises a hydrophilic polymer.

66. (New) The implant of claim 3, wherein said load bearing elastic body comprises a member selected from the group consisting of silicone, polyurethane, copolymers of silicone and polyurethane, polyolefins, neoprene, nitrile, vulcanized rubber and combinations thereof.

67. (New) The implant of claim 65 wherein said polyurethane is a member selected from the group consisting of thermoplastic polyurethanes, aliphatic polyurethanes, segmented

polyurethanes, hydrophilic polyurethanes, polyether-urethane, polycarbonate-urethane and silicone polyether-urethane.

68. (New) The implant of claim 3, wherein said load bearing elastic body comprises a member selected from the group consisting of glucomannan gel, hyaluronic acid, polysaccharides, cross-linked carboxyl-containing polysaccharides, and combinations thereof.

69. (New) The implant of claim 24 wherein said rounded edge may be an inner edge or an outer edge.

70. (New) An intervertebral disc nucleus pulposus implant comprising a load bearing body sized for placement into an intervertebral disc space, said body having a first end, a second end, and a central portion; wherein said body assumes a first, folded configuration in which said first end and said second end are positioned adjacent to said central portion to provide an implant having a substantially solid center when the implant is not subjected to straightening forces, and wherein said body assumes a second, straightened configuration in which said central portion is between said first end and said second end to provide an implant having a substantially linear shape when said body is subjected to straightening forces; wherein said first end and said second end are each approximately one half the length of said central portion so that the first end and the second end abut near the middle of said central portion when the body assumes its first, folded configuration; and wherein said body includes a plurality of grooves to prevent cracking or tearing of the implant when the implant is manipulated to its straightened configuration.